

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number
WO 2004/062535 A3

(51) International Patent Classification⁷: A61F 2/34,
A61C 8/00, A61F 2/28, 2/46

(21) International Application Number:
PCT/CA2004/000016

(22) International Filing Date: 6 January 2004 (06.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2,416,348 14 January 2003 (14.01.2003) CA

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

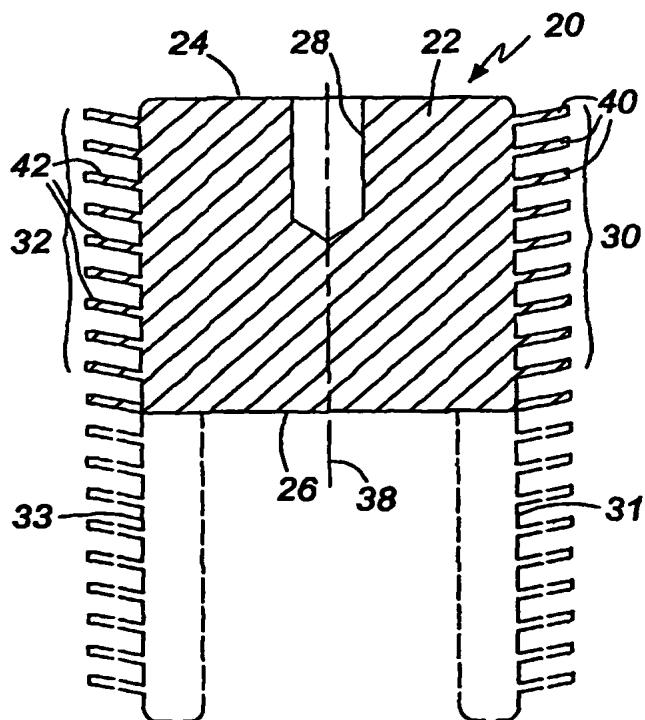
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
16 September 2004

[Continued on next page]

(54) Title: BONE IMPLANT AND DEVICE FOR FORMING A SOCKET FOR SAME



(57) Abstract: A bone implant having a core section (22) to which a prosthesis is eventually secured, and rib-like projections (30, 32) or anchoring prongs (31, 33) enhancing the hold of the implant in the bone. The invention is particularly, but not exclusively, intended as a dental implant. The socket for the implant is drilled in a bone using a suitable template (50) which is subsequently inserted in an original pre-drilled bore and which serves as a guide for subsequent drilling of bores for the anchoring prongs or rib-like projections. Several different types of the templates are disclosed together with a number of compatible implants. A specific tool (510, 530) is also disclosed which reduces the damage to the bone by reducing the volume of the initial portion of the socket adapted to receive the associated template.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA2004/000016

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61F2/34 A61C8/00 A61F2/28 A61F2/46

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61F A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 35 33 432 A (ALLOPLANT BURDORF & LAUCHART O) 26 March 1987 (1987-03-26) abstract column 2, line 41 - line 60 figures ----- US 5 766 009 A (JEFFCOAT ROBERT L) 16 June 1998 (1998-06-16) abstract column 4, line 32 - line 49 figure 2C ----- WO 00/74607 A (OSTEOTECH INC) 14 December 2000 (2000-12-14) page 12, line 18 - page 13, line 11 page 13, line 18 - page 14, line 2 figures 1,3,4,11 ----- -/-	1,5,7-9 1,2,7-9 1,7-9

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
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- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

30 April 2004

Date of mailing of the international search report

23.07.2004

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA2004/000016

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 013 242 A (PREZMECKY LASZLO) 7 May 1991 (1991-05-07) abstract; figures -----	1,7-9
X	DE 198 16 832 C (AESCULAP AG & CO KG) 20 January 2000 (2000-01-20) abstract; figures 5,10 -----	1,7-9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/000016

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-9, 19-25

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9, 19-25

A bone implant comprising:

- a core having a first end wall, a second end wall and defining a centreline extending centrally of and between said end walls;
- at least two axially elongated projections extending from and along said core disposed at uniform circumferential spacing from each other about the centreline and having a rounded contour when viewed in the axial direction of the core;
- said core and said projections being dimensioned to contact inner wall sections of a socket formed in bone.

1.1. claims: 19-25

Template means for forming an implant receiving socket, said template means comprising:

- a sleeve having an axis;
- an axially elongated first channel and an axially elongated second channel, each formed in the outer wall of the sleeve, having a concavely rounded cross-section and being disposed at a generally uniform spacing from each other about said axis.

2. claims: 10-18, 26-29, 30-32, 33

A bone implant and associated template means comprising:

- a core having a first end wall, a second end wall and defining a centreline extending centrally of and between said end walls;
- at least two axially elongated stems projecting from said second end of the core at diametrically opposed locations disposed near a periphery of the second end wall and having a rounded contour when viewed in the axial direction of the core;
- said core and said projections being dimensioned to contact inner wall sections of a socket formed in bone.

3. claims: 34, 35

A drill bit for use in forming a socket for a bone implant, said drill bit comprising, in combination:

- a shank;
- a cylindric stem coaxial with the shank and terminating in a rounded tip;
- a pair of radially projecting, opposed cutting blades.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA2004/000016

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